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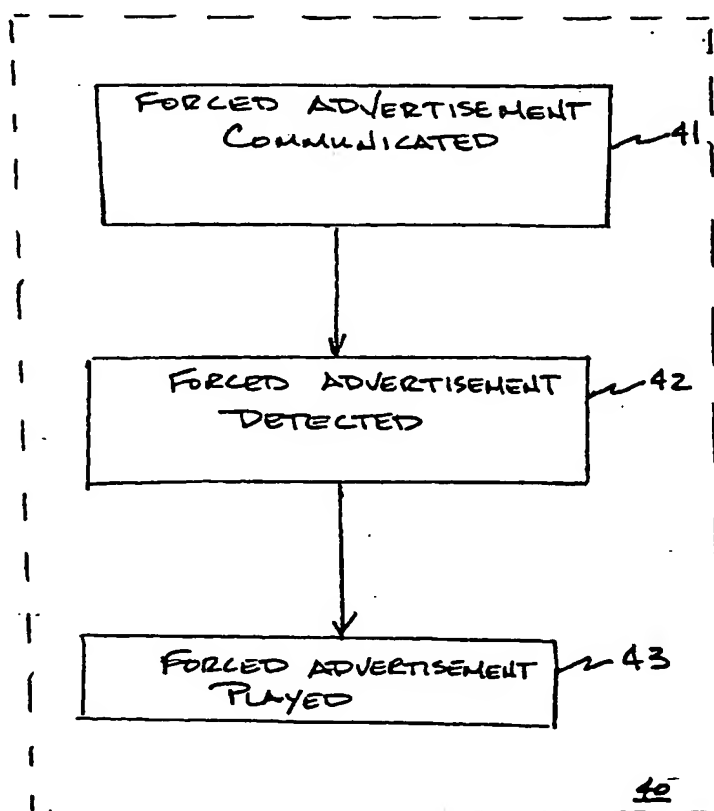
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[Continued on next page]

(54) Title: **METHODS AND SYSTEMS FOR FORCED ADVERTISING**



(57) Abstract: Methods and systems for forced advertising are provided. These methods and systems determine when a forced advertisement is to be presented, determine what forced advertisement is to be presented, and control how the forced advertisement is to be presented. A forced advertisement may be received prior to the time at which the forced advertisement is to be presented or when needed. The forced advertisement may be presented when certain broadcast advertisements are being broadcast, at certain times of the day, or at certain times within a program. The forced advertisements may be selected based upon content of a replaced broadcast advertisement, content of a nearby program, or independently of any broadcast-related factors. Finally, forced advertisements may be presented so that a television viewer cannot escape viewing the advertisement by changing channels or turning off the television.

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## METHODS AND SYSTEMS FOR FORCED ADVERTISING

Cross Reference To Related Application

This application claims the benefit of United States provisional application No. 60/179,551, filed  
5 February 1, 2000, which is hereby incorporated by reference herein in its entirety.

Background of Invention

This invention relates to television advertising. More particularly, this invention relates  
10 to methods and systems for providing forced advertisements to viewers.

Television viewers are currently exposed to a wide variety of advertising when watching most non-premium television channels. This advertising is  
15 typically presented to promote an advertiser's products and services and, at the same time, sponsor or subsidize the cost of providing television programming. Television advertising in this way is generally viewed as a highly effective means of promoting products and  
20 services, but is also recognized as being very expensive.

One problem with television advertising is that television viewers frequently change channels as soon as a television advertisement appears. This act  
25 is colloquially known as "channel surfing." Recent

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technologies have also facilitated skipping commercials when programs are buffered by or stored on personal video recorders which digitally store programs on disk drives. For example, when a program is stored on a disk drive of a personal video recorder, a television viewer may press a button that causes the recorded program to jump in thirty second increments and thereby skip the typical thirty second commercial.

Another problem with television advertising is that television broadcasters typically have exclusive control of the advertisements that are shown on a corresponding channel viewed by a television viewer. This prevents a television distributors, such as cable and satellite television companies, from being able to provide alternate advertising to the television viewer.

Thus, it is desirable to provide methods and systems for forcing advertisements on viewers. Such methods and systems preferably facilitate preventing viewers from changing channels away from, or skipping, television advertisements. These methods and systems also preferably facilitate providing alternative advertising from that provided by television broadcasters to television viewers.

## Summary of the Invention

These and other objects of the invention are accomplished in accordance with the principle of the present invention by providing methods and systems for forced advertising.

In accordance with the invention, these methods and systems provide forced advertising by determining when a forced advertisement is to be presented, by determining what forced advertisement is

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to be presented, and by controlling how the forced advertisement is to be presented. A forced advertisement may be received prior to the time at which the forced advertisement is to be presented.

- 5 Alternatively, the forced advertisement may be received when needed. The forced advertisement may be presented when certain broadcast advertisements are being broadcast, at certain times of the day, or at certain times within a program. The forced advertisements may  
10 be selected based upon content of a replaced broadcast advertisement, content of a nearby program, or independently of any broadcast-related factors. Finally, forced advertisements may be presented so that a television viewer cannot escape viewing the  
15 advertisement by changing channels or turning off the television.

#### Brief Description of the Drawings

- These and other objects and advantages of the invention will become apparent upon reading the  
20 following detailed description and upon reference to the drawings in which:

FIG. 1 is a block diagram illustrating hardware that may be used in various embodiments of the present invention;

- 25 FIG. 2 is a flow chart of a process in accordance with one embodiment of the present invention in which a forced advertisement is retained in a storage device contained within user equipment;

- FIG. 3 is a flow chart of a process in  
30 accordance with one embodiment of the present invention in which a forced advertisement is transmitted from a forced advertising generation facility; and

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FIG. 4 is a flow chart of a process in accordance with one embodiment of the present invention in which an incoming advertisement is designated as a forced advertisement.

5 Detailed Description of the Preferred Embodiments

An illustrative system 10 in accordance with the present invention is shown in FIG. 1. As illustrated, system 10 may include a video stream generation facility 11, a forced advertisement  
10 generation facility 12, communication links 13 and 14, user equipment 15, and a user display 16. Video stream generation facility 11 may be used to provide video streams. A video stream may include television, cable, Internet or other suitable media signals with video,  
15 audio, data, etc. components which, when received by user equipment, may be used to provide suitable display on a user display. Video stream generation facility 11 may include television broadcast equipment, video tape players, video and data servers, etc.

20 Forced advertisement generation facility 12 may be used to provide forced advertisements. Like video streams, forced advertisements may include television, cable, Internet or other suitable media signals with video, audio, data, etc. components which,  
25 when received by user equipment, may be used to provide suitable display on a user display. Forced advertisement generation facility 11 may include television broadcast equipment, video tape players, video and data servers, etc.

30 System 10 may include multiple video stream generation facilities 11 as well as multiple forced advertisement generation facilities 12, but only one of each has been shown to avoid over-complicating the

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drawing. Additionally, video stream generation facility 11 and forced advertisement generation facility 12 may be at the same location, such as at a cable head-end, and/or may be combined.

5           Communications links 13 and 14 may be used to transmit video streams and forced advertisements to user equipment, and may include, for example, a satellite link, a telephone network link, a cable or fiber optic link, a microwave link, an Internet link, a  
10 data-over-cable service interface specification link, a combination of such links or any other suitable communications link.

          The video streams and the forced advertisements, once transmitted through links 13 and  
15 14, may then be received by user equipment 15. User equipment 15 may be implemented using a set-top box, a personal computer, a set-top box, a personal video recorder, or any other suitable equipment containing a processor or several processors. If desired, a  
20 combination of such arrangements may be used. Both the video streams and the forced advertisements may be shown to a user on a user display 16. The user display 16 may be integrated into the same enclosure as user equipment 15.

25           User equipment 15 may also include a storage device 17. Storage device 17 may be any suitable storage device such as a hard disk drive, a video tape drive, a rewritable compact disc or combination of such devices suitable for storing forced advertising. The  
30 storage device 17 may be capable of storing several hours of video streams (e.g., movies, television shows, sporting events, etc.) and forced advertisements (e.g., television commercials including video and audio, barker channel promotions, text, graphics, etc.).

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One embodiment of a process 20 for forcing advertisements that may be implemented using system 10 is shown in FIG. 2. As illustrated, at step 21, a forced advertisement may be communicated from forced advertisement generation facility 12 to storage device 17 in user equipment 15 at times such as initial set-up of user equipment 15, when the user equipment 15 is turned on, at set time intervals, etc. The forced advertisement may then be stored in storage device 17 at step 22 for subsequent play. Next, at step 23, user equipment 15 may wait for a video stream to be presented to the television viewer. A video stream may be presented to a television viewer upon the viewer tuning to a desired television channel, for example. Once a video stream is being presented, process 20 may determine at step 24 whether a forced advertisement is to be presented.

Whether a forced advertisement is to be presented may be based upon any suitable factor or factors. For example, a forced advertisement may be presented whenever a certain advertisement is included in the video stream -- such as whenever a Pepsi advertisement is detected. Advertisements may be detected using programming tags or data, using close captioning data, or using any other suitable method. As another example, a forced advertisement may be presented at certain times within a broadcast -- such as approximately 15 minutes into a program or during the third commercial break of a program. As still another example, a forced advertisement may be presented at a certain time or certain times of the day -- such as at the top of each hour. Any other suitable method for selecting when and which advertisements are to be presented may be used.

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In an alternative embodiment, the forced advertisement that is presented may be the same advertisement or a slightly modified version of the advertisement that is being replaced. For example, the forced advertisement may be for the same advertiser as the original advertisement or may be a version of the advertisement that has been determined to be of higher interest to the specific viewer or household.

Once a forced advertisement is determined to be presented at step 24, process 20 may next select which forced advertisement to be presented at step 25. Any suitable method for selecting which forced advertisement is to be presented may be used. For example, when certain advertisements are detected, a competitor advertisement may then be selected to be presented as the forced advertisement. Thus, when a Pepsi advertisement is detected, a Coca Cola advertisement may be forced. As another example, forced advertisements may be selected based upon program content that is broadcast near in time to the forced advertisement. Thus, when a forced advertisement is to be presented as the third advertisement of every television program, the forced advertisement may be for beer when presented during a football game and for golf clubs when presented during a golf tournament. The content of the program may be determined from program tags or guide data, from closed captioning data, or using any other suitable method.

Finally, once a forced advertisement is selected at step 25, the forced advertisement may be presented at step 26. Playing of the forced advertisement at step 26 may include preventing the television viewer from escaping the advertisement by switching channels, or even turning off the user

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equipment. For example, if the viewer attempts to switch to a different video stream channel during a forced advertisement (e.g., channel surfing), the user equipment may switch to the new channel but the forced advertisement may continue to play until completion or, alternatively, the advertisement play would have to be completed before the channel switch can occur. As another example, if the user turns off the user equipment 15 during the forced advertisement display, when the user turns the user equipment 15 back on, the forced advertisement may continue to be displayed until completion or it may replay from the beginning.

Forced advertisements may be presented at any point in a television program irrespective of whether another advertisement is being broadcast. To do this, a nearby television program may be buffered in storage device 17. For example, if a forced advertisement is to be presented at 7:15 pm during a television program, but no other advertisement is to be aired at that time, the invention may buffer the program while the forced advertisement is being presented, and then later remove a broadcast advertisement and unbuffer the program to make up the lost time.

Forced advertisements may be integrated into the video and/or audio of a television program broadcast or may be presented in a separate window. For example, a forced advertisement may be presented in a normal commercial break so that the television viewer has no idea that a forced advertisement is being presented. Alternatively, as another example, a forced advertisement may be presented in a window overlaying all or a portion of the television program broadcast.

Turning to FIG. 3, another process 30 for forcing advertisements that may be implemented using

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user equipment 15 in accordance with one embodiment of the present invention is shown. As illustrated, at step 31, process 30 may wait for a video stream to be received. Step 31 may be substantially the same as  
5 step 23 described above. Next, at step 32, process 30 may determine when a forced advertisement is to be presented. Step 32 may be substantially the same as step 24 described above. At step 33, process 30 may then send a signal to forced advertisement generation  
10 facility 12 requesting that a forced advertisement be provided. Facility 12 may then select an advertisement to be presented in any suitable fashion, for example, as explained in connection with step 25 above. Then, at step 34, forced advertisement generation facility 12  
15 may transmit a forced advertisement to user equipment 15. This forced advertisement may finally be presented at step 35. Step 35 may present the forced advertisement in substantially the same manner as described above in connection with step 26.

20 Turning to FIG. 4, another process 40 for detecting a forced advertisement in an incoming video stream for play or replay in accordance with one embodiment of the present invention is shown. As illustrated, at step 41, process 40 may wait for a  
25 video stream to be received. Next, at step 42, an incoming advertisement which has been designated as a forced advertisement may be received and identified. The identification may be based upon detecting designations in the forced advertisements, such as  
30 programming tags or data or close captioning data, may be based upon information stored in programming data, may be based upon a time at which an advertisement is received, may be based upon a channel on which an advertisement is received, etc., or any combination of

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the same. At step 43, the forced advertisement may then be played. Playing of the forced advertisement at step 43 may include preventing the television viewer from switching channels while the forced advertisement is playing. Additionally, at step 43, forced advertisements may be stored in the storage device 17 of user equipment 15, if desired. This may then allow the presentation of the forced advertisement in substantially the same manner as step 26, that is, the forced advertisement play may recommence or restart if the channel is switched or if the user equipment 15 is turned on and off.

In addition to providing forced advertising, user equipment 15 may also be used to present an electronic program guide. In one embodiment, the electronic program guide may be an interactive television program guide in order to facilitate selecting programs to be viewed. Illustrative interactive television program guides are described, for example, in Knee et al. U.S. Patent 5,589,892, issued December 31, 1996, and Knudson et al. U.S. Patent Application Serial No. 09/357,941, filed July 16, 1999, which are hereby incorporated by reference herein in their entireties.

Thus, it is apparent that there has been provided, in accordance with the invention, a forced advertising system that fully satisfies the objects, aims and advantages set forth above. While the invention has been described in conjunction with specific embodiments thereof, it is evident that many alternatives, modifications and variations as fall within the spirit of the appended claims.

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What is claimed is:

1. A method for forcing a forced advertisement during a presentation of a television program, comprising:

determining a point at which the forced advertisement is to be presented during the presentation of a television program;

selecting an advertisement to be presented as the forced advertisement; and

presenting the forced advertisement at the point in the presentation of the television program.

2. The method of claim 1, further comprising:

receiving the forced advertisement in advance of the point in the presentation of the television program; and

storing the forced advertisement.

3. The method of claim 1, further comprising requesting the forced advertisement at the point in the presentation of the television program.

4. The method of claim 1, wherein determining the point at which the forced advertisement is to be presented during the presentation of the television program comprises determining when a certain advertisement is being broadcast.

5. The method of claim 1, wherein determining the point at which the forced advertisement is to be presented during the presentation of the

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television program comprises determining when a certain time of day occurs.

6. The method of claim 1, wherein determining the point at which the forced advertisement is to be presented during the presentation of the television program comprises determining when a certain point in the television program is reached.

7. The method of claim 1, wherein selecting the advertisement to be presented as the forced advertisement comprises determining the content of a broadcast advertisement that is being replaced by the forced advertisement.

8. The method of claim 1, wherein selecting the advertisement to be presented as the forced advertisement comprises determining the content of the television program.

9. The method of claim 1, wherein presenting the forced advertisement at the point in the presentation of the television program comprises continuing to present the forced advertisement after a television viewer attempts to change channels.

10. The method of claim 1, wherein presenting the forced advertisement at the point in the presentation of the television program comprises continuing to present the forced advertisement after the television viewer turns off and on user equipment through which the television program is being presented.

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11. A method of presenting a forced advertisement to a television viewer comprising:  
detecting the forced advertisement in an incoming video stream;  
displaying the forced advertisement; and  
preventing the television viewer from changing channels during playing of the forced advertisement.

12. The method of claim 11, wherein presenting of the forced advertisement comprises continuing to present the forced advertisement after the television viewer turns on and off user equipment on which the forced advertisement was being presented.

13. The method of claim 11, wherein presenting of the forced advertisement comprises storing the forced advertisement in the user equipment on which the forced advertisement was being presented.

14. A method of presenting a forced advertisement to a television viewer comprising:  
detecting the forced advertisement in an incoming video stream;  
displaying the forced advertisement; and  
continuing to present the forced advertisement after the television viewer turns on and off user equipment on which the forced advertisement was being presented.

15. The method of claim 14, wherein presenting of the forced advertisement comprises preventing the television viewer from changing channels during playing of the forced advertisement.

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16. The method of claim 14, wherein presenting of the forced advertisement comprises storing the forced advertisement in the user equipment.

17. A system for forcing a forced advertisement during a presentation of a television program, comprising:

a processor that determines a point at which the forced advertisement is to be presented during the presentation of the television program, and selects an advertisement to be presented as the forced advertisement; and

a display that presents the forced advertisement at the point in the presentation of the television program.

18. The system of claim 17, further comprising a storage device that receives the forced advertisement in advance of the point in the presentation of the television program and stores the forced advertisement.

19. The system of claim 17, wherein the processor requests the forced advertisement at the point in the presentation of the television program.

20. The system of claim 17, wherein the processor, in determining the point at which the forced advertisement is to be presented during the presentation of the television program, determines when a certain advertisement is being broadcast.

21. The system of claim 17, wherein the processor, in determining the point at which the forced

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advertisement is to be presented during the presentation of the television program, determines when a certain time of day occurs.

22. The system of claim 17, wherein the processor, in determining the point at which the forced advertisement is to be presented during the presentation of the television program, determines when a certain point in the television program is reached.

23. The system of claim 17, wherein the processor, in selecting the advertisement to be presented as the forced advertisement, determines the content of a broadcast advertisement that is being replaced by the forced advertisement.

24. The system of claim 17, wherein the processor, in selecting the advertisement to be presented as the forced advertisement, determines the content of the television program.

25. The system of claim 17, wherein the processor, in causing the display to present the forced advertisement at the point in the presentation of the television program, causes the display to continue to present the forced advertisement after a television viewer attempts to change channels.

26. The system of claim 17, wherein the processor, in causing the display to present the forced advertisement at the point in the presentation of the television program, causes the display to continue to present the forced advertisement after a television viewer turns processor off and on.

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27. A system for forcing a forced advertisement during a presentation of a television program, comprising:

a first processor that determines a point at which the forced advertisement is to be presented during the presentation of the television program;

a second processor that selects an advertisement to be presented as the forced advertisement; and

a display that presents the forced advertisement at the point in the presentation of the television program.

28. The system of claim 27, further comprising a storage device that receives the forced advertisement in advance of the point in the presentation of the television program and stores the forced advertisement.

29. The system of claim 27, wherein at least one of the first processor and the second processor requests the forced advertisement at the point in the presentation of the television program.

30. The system of claim 27, wherein at least one of the first processor and the second processor, in determining the point at which the forced advertisement is to be presented during the presentation of the television program, determines when a certain advertisement is being broadcast.

31. The system of claim 27, wherein at least one of the first processor and the second processor, in

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determining the point at which the forced advertisement is to be presented during the presentation of the television program, determines when a certain time of day occurs.

32. The system of claim 27, wherein at least one of the first processor and the second processor, in determining the point at which the forced advertisement is to be presented during the presentation of the television program, determines when a certain point in the television program is reached.

33. The system of claim 27, wherein at least one of the first processor and the second processor, in selecting the advertisement to be presented as the forced advertisement, determines the content of a broadcast advertisement that is being replaced by the forced advertisement.

34. The system of claim 27, wherein at least one of the first processor and the second processor, in selecting the advertisement to be presented as the forced advertisement, determines the content of the television program.

35. The system of claim 27, wherein at least one of the first processor and the second processor, in causing the display to present the forced advertisement at the point in the presentation of the television program, causes the display to continue to present the forced advertisement after a television viewer attempts to change channels.

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36. The system of claim 27, wherein at least one of the first processor and the second processor, in causing the display to present the forced advertisement at the point in the presentation of the television program, causes the display to continue to present the forced advertisement after a television viewer turns processor off and on.

37. A system for presenting a forced advertisement to a television viewer comprising:

a processor that determines the forced status of an incoming advertisement and that prevents the television viewer from changing channels during the play of the forced advertisement; and

a display that displays the forced advertisement.

38. The system of claim 37, wherein the processor also causes the display to continue to present the forced advertisement after the television viewer turns user equipment on and off on which the forced advertisement was being presented.

39. The system of claim 37, further comprising a storage device that receives the forced advertisement and stores the forced advertisement.

40. A system for presenting a forced advertisement to a television viewer comprising:

a processor that determines the forced status of an incoming advertisement and that continues to present the forced advertisement after the television viewer turns on and off user equipment on which the forced advertisement was being presented; and

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a display that displays the forced advertisement.

41. The system of claim 40, wherein the processor also prevents the television viewer from changing channels during playing of the forced advertisement.

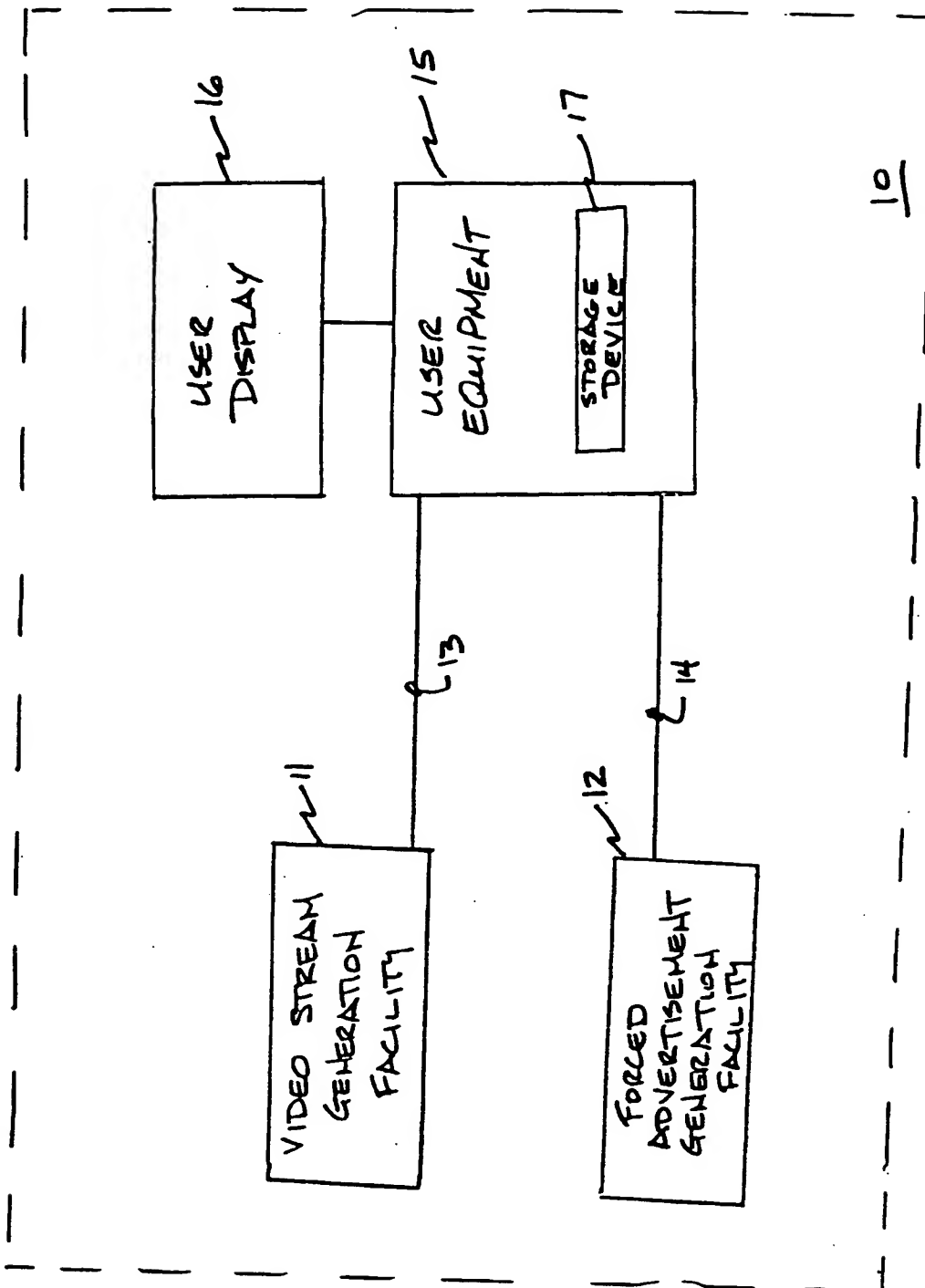
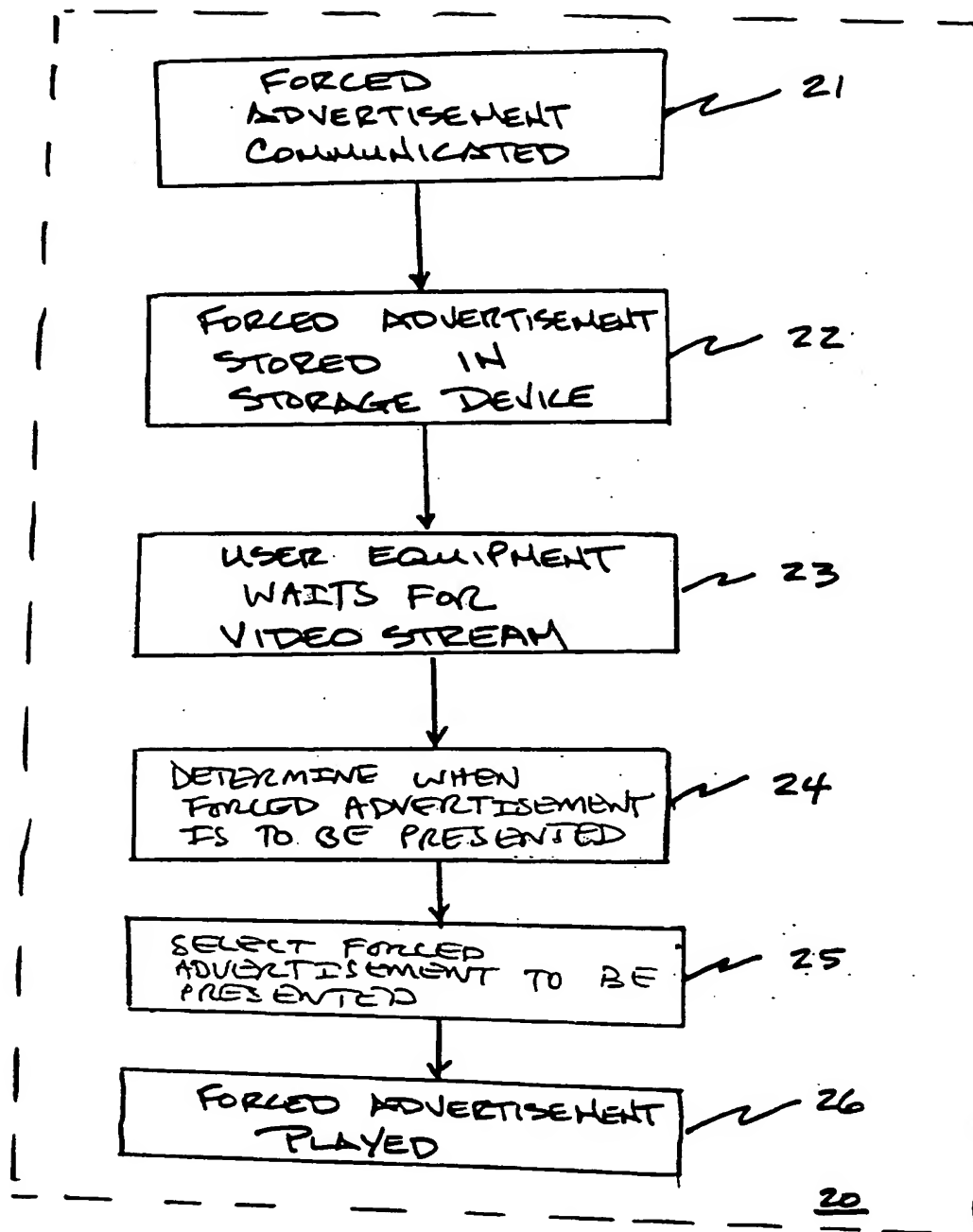
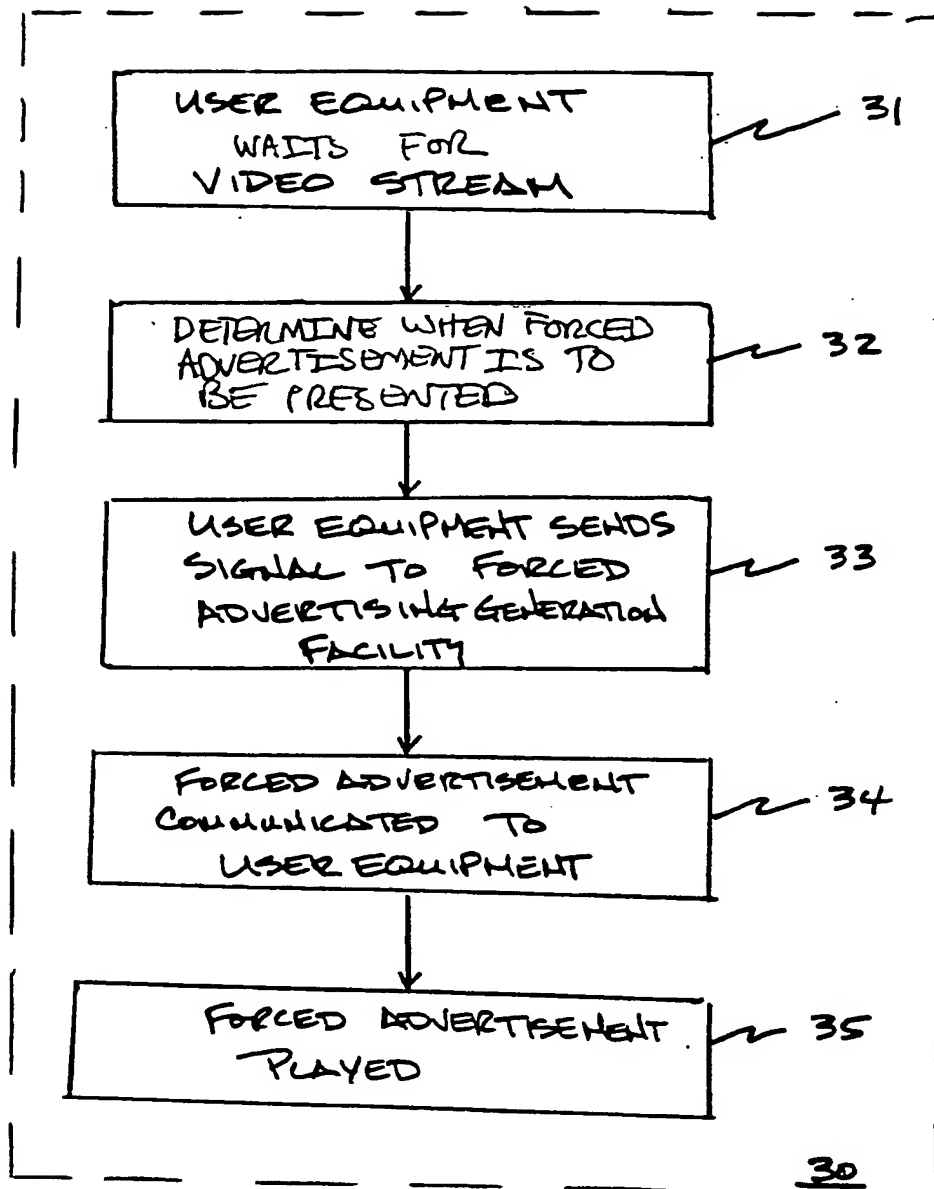


FIG. 1

FIG. 2

FIG. 3

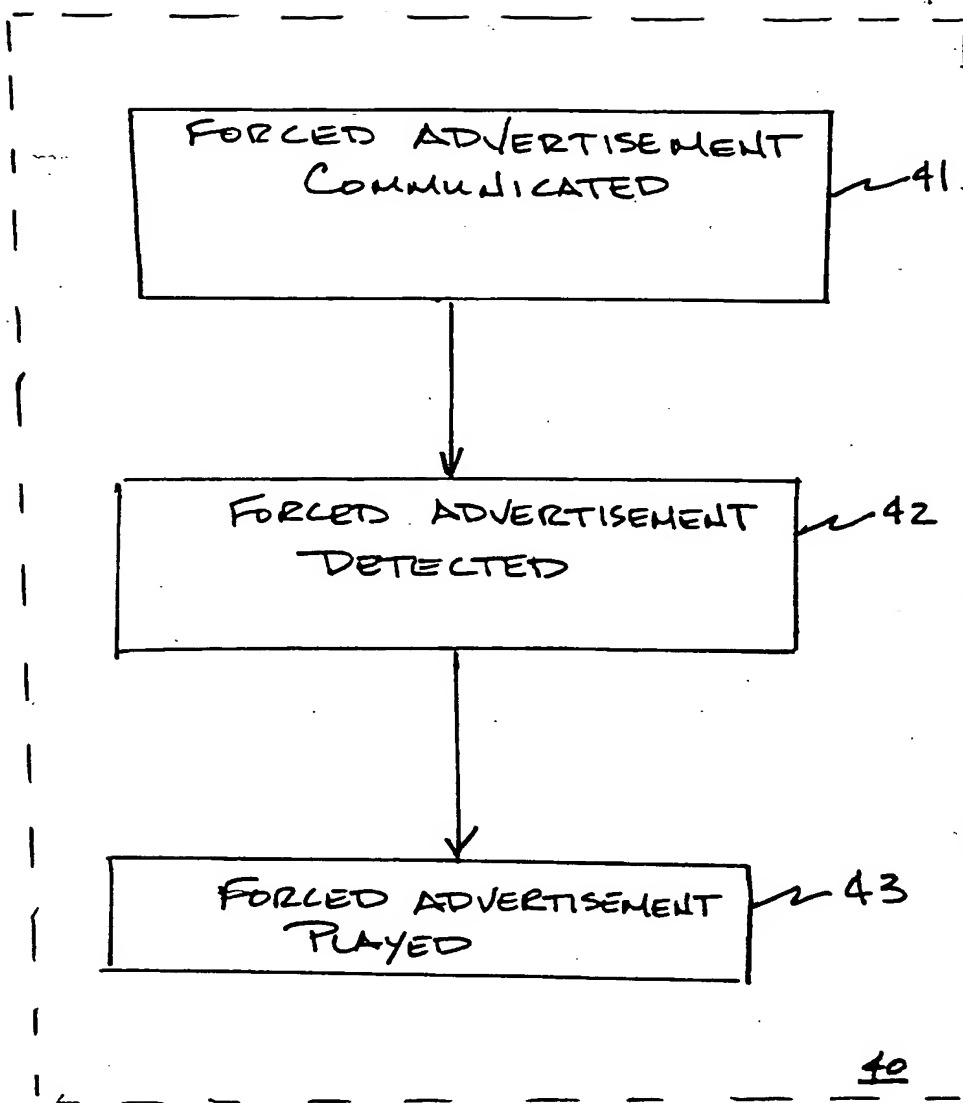


FIG. 4

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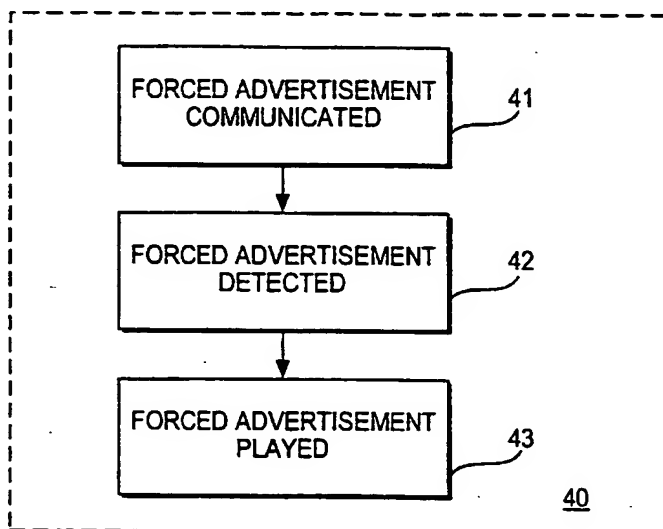
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(57) Abstract: Methods and systems for forced advertising are provided. These methods and systems determine when a forced advertisement is to be presented, determine what forced advertisement is to be presented, and control how the forced advertisement is to be presented. A forced advertisement may be received prior to the time at which the forced advertisement is to be presented or when needed. The forced advertisement may be presented when certain broadcast advertisements are being broadcast, at certain times of the day, or at certain times within a program. The forced advertisements may be selected based upon content of a replaced broadcast advertisement, content of a nearby program, or independently of any broadcast-related factors. Finally, forced advertisements may be presented so that a television viewer cannot escape viewing the advertisement by changing channels or turning off the television.

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# INTERNATIONAL SEARCH REPORT

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PCT/US 01/03301

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04N7/16

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>US 6 002 393 A (BEAUREGARD ROBERT G ET AL) 14 December 1999 (1999-12-14)</p> <p>figures 1,2,5,6 column 2, line 11 - line 15 column 2, line 33 - line 38 column 4, line 5 - line 13 column 4, line 36 - line 48 column 4, line 57 - line 60 column 5, line 2 - line 14 column 5, line 42 - line 46 column 6, line 41 - line 47 column 7, line 8 - line 14 column 7, line 36 - line 47 column 11, line 27 - line 29 column 11, line 42 - line 53 column 11, line 58 - line 63</p> <p>-/--</p>	<p>1-9, 11, 13, 17-25, 27-35, 37, 39</p>

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
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- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

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- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

2 August 2001

Date of mailing of the international search report

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Name and mailing address of the ISA

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# INTERNATIONAL SEARCH REPORT

In ternational Application No  
PCT/US 01/03301

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p style="text-align: center;">---</p> <p>US 5 661 516 A (CARLES JOHN B) 26 August 1997 (1997-08-26)</p> <p>figures 1,3 column 2, line 48 - line 52 column 2, line 64 - line 67 column 3, line 17 - line 24 column 3, line 29 - line 34 column 3, line 51 - line 60 column 4, line 18 - line 35 column 4, line 45 - line 49 column 5, line 3 - line 5 column 9, line 37 - line 52</p>	<p>1-8, 17-24, 27-34</p>
A	<p style="text-align: center;">---</p> <p>WO 97 49241 A (BEN MOSHE GIL ;ANTMAN AMNON (IL)) 24 December 1997 (1997-12-24)</p> <p>figure 1 page 2, line 11 - line 22 page 3, line 25 -page 4, line 5 page 4, line 29 - line 32</p>	<p>1-4, 17-20, 27-30</p>
A	<p style="text-align: center;">---</p> <p>EP 0 424 648 A (GEN INSTRUMENT CORP.) 2 May 1991 (1991-05-02)</p> <p>figures 3,5,7 column 1, line 49 -column 2, line 8 column 2, line 29 - line 36 column 3, line 37 - line 45 column 4, line 15 - line 30 column 7, line 7 - line 11 column 7, line 20 - line 25 column 9, line 18 - line 24 column 9, line 35 - line 47 column 10, line 43 - line 49 column 12, line 18 - line 24</p>	<p>1-7, 17-23, 27-33</p>
A	<p style="text-align: center;">---</p> <p>US 5 093 921 A (BEVINS JR GEORGE L) 3 March 1992 (1992-03-03)</p> <p>figure 1 column 4, line 11 - line 23 column 8, line 66 -column 9, line 6</p> <p style="text-align: center;">-----</p>	<p>10,12, 14-16, 26,36, 38,40,41</p>

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No.

PCT/US 01/03301

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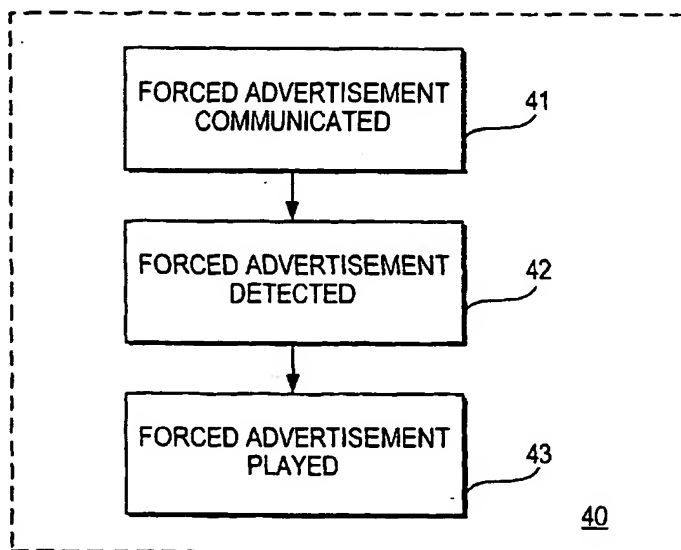
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(54) Title: METHODS AND SYSTEMS FOR FORCED ADVERTISING



(57) Abstract: Methods and systems for forced advertising are provided. These methods and systems determine when a forced advertisement is to be presented, determine what forced advertisement is to be presented, and control how the forced advertisement is to be presented. A forced advertisement may be received prior to the time at which the forced advertisement is to be presented or when needed. The forced advertisement may be presented when certain broadcast advertisements are being broadcast, at certain times of the day, or at certain times within a program. The forced advertisements may be selected based upon content of a replaced broadcast advertisement, content of a nearby program, or independently of any broadcast-related factors. Finally, forced advertisements may be presented so that a television viewer cannot escape viewing the advertisement by changing channels or turning off the television.



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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**(15) Information about Correction:**

see PCT Gazette No. 44/2002 of 31 October 2002, Section II

## METHODS AND SYSTEMS FOR FORCED ADVERTISING

Cross Reference To Related Application

This application claims the benefit of United States provisional application No. 60/179,551, filed  
5 February 1, 2000, which is hereby incorporated by reference herein in its entirety.

Background of Invention

This invention relates to television advertising. More particularly, this invention relates  
10 to methods and systems for providing forced advertisements to viewers.

Television viewers are currently exposed to a wide variety of advertising when watching most non-premium television channels. This advertising is  
15 typically presented to promote an advertiser's products and services and, at the same time, sponsor or subsidize the cost of providing television programming. Television advertising in this way is generally viewed as a highly effective means of promoting products and  
20 services, but is also recognized as being very expensive.

One problem with television advertising is that television viewers frequently change channels as soon as a television advertisement appears. This act  
25 is colloquially known as "channel surfing." Recent

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technologies have also facilitated skipping commercials when programs are buffered by or stored on personal video recorders which digitally store programs on disk drives. For example, when a program is stored on a disk drive of a personal video recorder, a television viewer may press a button that causes the recorded program to jump in thirty second increments and thereby skip the typical thirty second commercial.

Another problem with television advertising is that television broadcasters typically have exclusive control of the advertisements that are shown on a corresponding channel viewed by a television viewer. This prevents a television distributors, such as cable and satellite television companies, from being able to provide alternate advertising to the television viewer.

Thus, it is desirable to provide methods and systems for forcing advertisements on viewers. Such methods and systems preferably facilitate preventing viewers from changing channels away from, or skipping, television advertisements. These methods and systems also preferably facilitate providing alternative advertising from that provided by television broadcasters to television viewers.

## Summary of the Invention

These and other objects of the invention are accomplished in accordance with the principle of the present invention by providing methods and systems for forced advertising.

In accordance with the invention, these methods and systems provide forced advertising by determining when a forced advertisement is to be presented, by determining what forced advertisement is

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to be presented, and by controlling how the forced advertisement is to be presented. A forced advertisement may be received prior to the time at which the forced advertisement is to be presented.

5 Alternatively, the forced advertisement may be received when needed. The forced advertisement may be presented when certain broadcast advertisements are being broadcast, at certain times of the day, or at certain times within a program. The forced advertisements may

10 be selected based upon content of a replaced broadcast advertisement, content of a nearby program, or independently of any broadcast-related factors. Finally, forced advertisements may be presented so that a television viewer cannot escape viewing the

15 advertisement by changing channels or turning off the television.

#### Brief Description of the Drawings

These and other objects and advantages of the invention will become apparent upon reading the

20 following detailed description and upon reference to the drawings in which:

FIG. 1 is a block diagram illustrating hardware that may be used in various embodiments of the present invention;

25 FIG. 2 is a flow chart of a process in accordance with one embodiment of the present invention in which a forced advertisement is retained in a storage device contained within user equipment;

FIG. 3 is a flow chart of a process in

30 accordance with one embodiment of the present invention in which a forced advertisement is transmitted from a forced advertising generation facility; and

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FIG. 4 is a flow chart of a process in accordance with one embodiment of the present invention in which an incoming advertisement is designated as a forced advertisement.

#### 5 Detailed Description of the Preferred Embodiments

An illustrative system 10 in accordance with the present invention is shown in FIG. 1. As illustrated, system 10 may include a video stream generation facility 11, a forced advertisement  
10 generation facility 12, communication links 13 and 14, user equipment 15, and a user display 16. Video stream generation facility 11 may be used to provide video streams. A video stream may include television, cable, Internet or other suitable media signals with video,  
15 audio, data, etc. components which, when received by user equipment, may be used to provide suitable display on a user display. Video stream generation facility 11 may include television broadcast equipment, video tape players, video and data servers, etc.

20 Forced advertisement generation facility 12 may be used to provide forced advertisements. Like video streams, forced advertisements may include television, cable, Internet or other suitable media signals with video, audio, data, etc. components which,  
25 when received by user equipment, may be used to provide suitable display on a user display. Forced advertisement generation facility 11 may include television broadcast equipment, video tape players, video and data servers, etc.

30 System 10 may include multiple video stream generation facilities 11 as well as multiple forced advertisement generation facilities 12, but only one of each has been shown to avoid over-complicating the

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drawing. Additionally, video stream generation facility 11 and forced advertisement generation facility 12 may be at the same location, such as at a cable head-end, and/or may be combined.

5           Communications links 13 and 14 may be used to transmit video streams and forced advertisements to user equipment, and may include, for example, a satellite link, a telephone network link, a cable or fiber optic link, a microwave link, an Internet link, a  
10 data-over-cable service interface specification link, a combination of such links or any other suitable communications link.

          The video streams and the forced advertisements, once transmitted through links 13 and  
15 14, may then be received by user equipment 15. User equipment 15 may be implemented using a set-top box, a personal computer, a set-top box, a personal video recorder, or any other suitable equipment containing a processor or several processors. If desired, a  
20 combination of such arrangements may be used. Both the video streams and the forced advertisements may be shown to a user on a user display 16. The user display 16 may be integrated into the same enclosure as user equipment 15.

25           User equipment 15 may also include a storage device 17. Storage device 17 may be any suitable storage device such as a hard disk drive, a video tape drive, a rewritable compact disc or combination of such devices suitable for storing forced advertising. The  
30 storage device 17 may be capable of storing several hours of video streams (e.g., movies, television shows, sporting events, etc.) and forced advertisements (e.g., television commercials including video and audio, barker channel promotions, text, graphics, etc.).

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One embodiment of a process 20 for forcing advertisements that may be implemented using system 10 is shown in FIG. 2. As illustrated, at step 21, a forced advertisement may be communicated from forced advertisement generation facility 12 to storage device 17 in user equipment 15 at times such as initial set-up of user equipment 15, when the user equipment 15 is turned on, at set time intervals, etc. The forced advertisement may then be stored in storage device 17 at step 22 for subsequent play. Next, at step 23, user equipment 15 may wait for a video stream to be presented to the television viewer. A video stream may be presented to a television viewer upon the viewer tuning to a desired television channel, for example. Once a video stream is being presented, process 20 may determine at step 24 whether a forced advertisement is to be presented.

Whether a forced advertisement is to be presented may be based upon any suitable factor or factors. For example, a forced advertisement may be presented whenever a certain advertisement is included in the video stream -- such as whenever a Pepsi advertisement is detected. Advertisements may be detected using programming tags or data, using close captioning data, or using any other suitable method. As another example, a forced advertisement may be presented at certain times within a broadcast -- such as approximately 15 minutes into a program or during the third commercial break of a program. As still another example, a forced advertisement may be presented at a certain time or certain times of the day -- such as at the top of each hour. Any other suitable method for selecting when and which advertisements are to be presented may be used.

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In an alternative embodiment, the forced advertisement that is presented may be the same advertisement or a slightly modified version of the advertisement that is being replaced. For example, the forced advertisement may be for the same advertiser as the original advertisement or may be a version of the advertisement that has been determined to be of higher interest to the specific viewer or household.

Once a forced advertisement is determined to be presented at step 24, process 20 may next select which forced advertisement to be presented at step 25. Any suitable method for selecting which forced advertisement is to be presented may be used. For example, when certain advertisements are detected, a competitor advertisement may then be selected to be presented as the forced advertisement. Thus, when a Pepsi advertisement is detected, a Coca Cola advertisement may be forced. As another example, forced advertisements may be selected based upon program content that is broadcast near in time to the forced advertisement. Thus, when a forced advertisement is to be presented as the third advertisement of every television program, the forced advertisement may be for beer when presented during a football game and for golf clubs when presented during a golf tournament. The content of the program may be determined from program tags or guide data, from closed captioning data, or using any other suitable method.

Finally, once a forced advertisement is selected at step 25, the forced advertisement may be presented at step 26. Playing of the forced advertisement at step 26 may include preventing the television viewer from escaping the advertisement by switching channels, or even turning off the user

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equipment. For example, if the viewer attempts to switch to a different video stream channel during a forced advertisement (e.g., channel surfing), the user equipment may switch to the new channel but the forced advertisement may continue to play until completion or, alternatively, the advertisement play would have to be completed before the channel switch can occur. As another example, if the user turns off the user equipment 15 during the forced advertisement display, when the user turns the user equipment 15 back on, the forced advertisement may continue to be displayed until completion or it may replay from the beginning.

Forced advertisements may be presented at any point in a television program irrespective of whether another advertisement is being broadcast. To do this, a nearby television program may be buffered in storage device 17. For example, if a forced advertisement is to be presented at 7:15 pm during a television program, but no other advertisement is to be aired at that time, the invention may buffer the program while the forced advertisement is being presented, and then later remove a broadcast advertisement and unbuffer the program to make up the lost time.

Forced advertisements may be integrated into the video and/or audio of a television program broadcast or may be presented in a separate window. For example, a forced advertisement may be presented in a normal commercial break so that the television viewer has no idea that a forced advertisement is being presented. Alternatively, as another example, a forced advertisement may be presented in a window overlaying all or a portion of the television program broadcast.

Turning to FIG. 3, another process 30 for forcing advertisements that may be implemented using

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user equipment 15 in accordance with one embodiment of the present invention is shown. As illustrated, at step 31, process 30 may wait for a video stream to be received. Step 31 may be substantially the same as  
5 step 23 described above. Next, at step 32, process 30 may determine when a forced advertisement is to be presented. Step 32 may be substantially the same as step 24 described above. At step 33, process 30 may then send a signal to forced advertisement generation  
10 facility 12 requesting that a forced advertisement be provided. Facility 12 may then select an advertisement to be presented in any suitable fashion, for example, as explained in connection with step 25 above. Then, at step 34, forced advertisement generation facility 12  
15 may transmit a forced advertisement to user equipment 15. This forced advertisement may finally be presented at step 35. Step 35 may present the forced advertisement in substantially the same manner as described above in connection with step 26.

20 Turning to FIG. 4, another process 40 for detecting a forced advertisement in an incoming video stream for play or replay in accordance with one embodiment of the present invention is shown. As illustrated, at step 41, process 40 may wait for a  
25 video stream to be received. Next, at step 42, an incoming advertisement which has been designated as a forced advertisement may be received and identified. The identification may be based upon detecting designations in the forced advertisements, such as  
30 programming tags or data or close captioning data, may be based upon information stored in programming data, may be based upon a time at which an advertisement is received, may be based upon a channel on which an advertisement is received, etc., or any combination of

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the same. At step 43, the forced advertisement may then be played. Playing of the forced advertisement at step 43 may include preventing the television viewer from switching channels while the forced advertisement is playing. Additionally, at step 43, forced advertisements may be stored in the storage device 17 of user equipment 15, if desired. This may then allow the presentation of the forced advertisement in substantially the same manner as step 26, that is, the forced advertisement play may recommence or restart if the channel is switched or if the user equipment 15 is turned on and off.

In addition to providing forced advertising, user equipment 15 may also be used to present an electronic program guide. In one embodiment, the electronic program guide may be an interactive television program guide in order to facilitate selecting programs to be viewed. Illustrative interactive television program guides are described, for example, in Knee et al. U.S. Patent 5,589,892, issued December 31, 1996, and Knudson et al. U.S. Patent Application Serial No. 09/357,941, filed July 16, 1999, which are hereby incorporated by reference herein in their entireties.

Thus, it is apparent that there has been provided, in accordance with the invention, a forced advertising system that fully satisfies the objects, aims and advantages set forth above. While the invention has been described in conjunction with specific embodiments thereof, it is evident that many alternatives, modifications and variations as fall within the spirit of the appended claims.

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What is claimed is:

1. A method for forcing a forced advertisement during a presentation of a television program, comprising:

determining a point at which the forced advertisement is to be presented during the presentation of a television program;

selecting an advertisement to be presented as the forced advertisement; and

presenting the forced advertisement at the point in the presentation of the television program.

2. The method of claim 1, further comprising:

receiving the forced advertisement in advance of the point in the presentation of the television program; and

storing the forced advertisement.

3. The method of claim 1, further comprising requesting the forced advertisement at the point in the presentation of the television program.

4. The method of claim 1, wherein determining the point at which the forced advertisement is to be presented during the presentation of the television program comprises determining when a certain advertisement is being broadcast.

5. The method of claim 1, wherein determining the point at which the forced advertisement is to be presented during the presentation of the

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television program comprises determining when a certain time of day occurs.

6. The method of claim 1, wherein determining the point at which the forced advertisement is to be presented during the presentation of the television program comprises determining when a certain point in the television program is reached.

7. The method of claim 1, wherein selecting the advertisement to be presented as the forced advertisement comprises determining the content of a broadcast advertisement that is being replaced by the forced advertisement.

8. The method of claim 1, wherein selecting the advertisement to be presented as the forced advertisement comprises determining the content of the television program.

9. The method of claim 1, wherein presenting the forced advertisement at the point in the presentation of the television program comprises continuing to present the forced advertisement after a television viewer attempts to change channels.

10. The method of claim 1, wherein presenting the forced advertisement at the point in the presentation of the television program comprises continuing to present the forced advertisement after the television viewer turns off and on user equipment through which the television program is being presented.

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11. A method of presenting a forced advertisement to a television viewer comprising:  
detecting the forced advertisement in an incoming video stream;  
displaying the forced advertisement; and  
preventing the television viewer from changing channels during playing of the forced advertisement.

12. The method of claim 11, wherein presenting of the forced advertisement comprises continuing to present the forced advertisement after the television viewer turns on and off user equipment on which the forced advertisement was being presented.

13. The method of claim 11, wherein presenting of the forced advertisement comprises storing the forced advertisement in the user equipment on which the forced advertisement was being presented.

14. A method of presenting a forced advertisement to a television viewer comprising:  
detecting the forced advertisement in an incoming video stream;  
displaying the forced advertisement; and  
continuing to present the forced advertisement after the television viewer turns on and off user equipment on which the forced advertisement was being presented.

15. The method of claim 14, wherein presenting of the forced advertisement comprises preventing the television viewer from changing channels during playing of the forced advertisement.

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16. The method of claim 14, wherein presenting of the forced advertisement comprises storing the forced advertisement in the user equipment.

17. A system for forcing a forced advertisement during a presentation of a television program, comprising:

a processor that determines a point at which the forced advertisement is to be presented during the presentation of the television program, and selects an advertisement to be presented as the forced advertisement; and

a display that presents the forced advertisement at the point in the presentation of the television program.

18. The system of claim 17, further comprising a storage device that receives the forced advertisement in advance of the point in the presentation of the television program and stores the forced advertisement.

19. The system of claim 17, wherein the processor requests the forced advertisement at the point in the presentation of the television program.

20. The system of claim 17, wherein the processor, in determining the point at which the forced advertisement is to be presented during the presentation of the television program, determines when a certain advertisement is being broadcast.

21. The system of claim 17, wherein the processor, in determining the point at which the forced

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advertisement is to be presented during the presentation of the television program, determines when a certain time of day occurs.

22. The system of claim 17, wherein the processor, in determining the point at which the forced advertisement is to be presented during the presentation of the television program, determines when a certain point in the television program is reached.

23. The system of claim 17, wherein the processor, in selecting the advertisement to be presented as the forced advertisement, determines the content of a broadcast advertisement that is being replaced by the forced advertisement.

24. The system of claim 17, wherein the processor, in selecting the advertisement to be presented as the forced advertisement, determines the content of the television program.

25. The system of claim 17, wherein the processor, in causing the display to present the forced advertisement at the point in the presentation of the television program, causes the display to continue to present the forced advertisement after a television viewer attempts to change channels.

26. The system of claim 17, wherein the processor, in causing the display to present the forced advertisement at the point in the presentation of the television program, causes the display to continue to present the forced advertisement after a television viewer turns processor off and on.

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27. A system for forcing a forced advertisement during a presentation of a television program, comprising:

a first processor that determines a point at which the forced advertisement is to be presented during the presentation of the television program;

a second processor that selects an advertisement to be presented as the forced advertisement; and

a display that presents the forced advertisement at the point in the presentation of the television program.

28. The system of claim 27, further comprising a storage device that receives the forced advertisement in advance of the point in the presentation of the television program and stores the forced advertisement.

29. The system of claim 27, wherein at least one of the first processor and the second processor requests the forced advertisement at the point in the presentation of the television program.

30. The system of claim 27, wherein at least one of the first processor and the second processor, in determining the point at which the forced advertisement is to be presented during the presentation of the television program, determines when a certain advertisement is being broadcast.

31. The system of claim 27, wherein at least one of the first processor and the second processor, in

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determining the point at which the forced advertisement is to be presented during the presentation of the television program, determines when a certain time of day occurs.

32. The system of claim 27, wherein at least one of the first processor and the second processor, in determining the point at which the forced advertisement is to be presented during the presentation of the television program, determines when a certain point in the television program is reached.

33. The system of claim 27, wherein at least one of the first processor and the second processor, in selecting the advertisement to be presented as the forced advertisement, determines the content of a broadcast advertisement that is being replaced by the forced advertisement.

34. The system of claim 27, wherein at least one of the first processor and the second processor, in selecting the advertisement to be presented as the forced advertisement, determines the content of the television program.

35. The system of claim 27, wherein at least one of the first processor and the second processor, in causing the display to present the forced advertisement at the point in the presentation of the television program, causes the display to continue to present the forced advertisement after a television viewer attempts to change channels.

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36. The system of claim 27, wherein at least one of the first processor and the second processor, in causing the display to present the forced advertisement at the point in the presentation of the television program, causes the display to continue to present the forced advertisement after a television viewer turns processor off and on.

37. A system for presenting a forced advertisement to a television viewer comprising:

a processor that determines the forced status of an incoming advertisement and that prevents the television viewer from changing channels during the play of the forced advertisement; and

a display that displays the forced advertisement.

38. The system of claim 37, wherein the processor also causes the display to continue to present the forced advertisement after the television viewer turns user equipment on and off on which the forced advertisement was being presented.

39. The system of claim 37, further comprising a storage device that receives the forced advertisement and stores the forced advertisement.

40. A system for presenting a forced advertisement to a television viewer comprising:

a processor that determines the forced status of an incoming advertisement and that continues to present the forced advertisement after the television viewer turns on and off user equipment on which the forced advertisement was being presented; and

- 19 -

a display that displays the forced advertisement.

41. The system of claim 40, wherein the processor also prevents the television viewer from changing channels during playing of the forced advertisement.

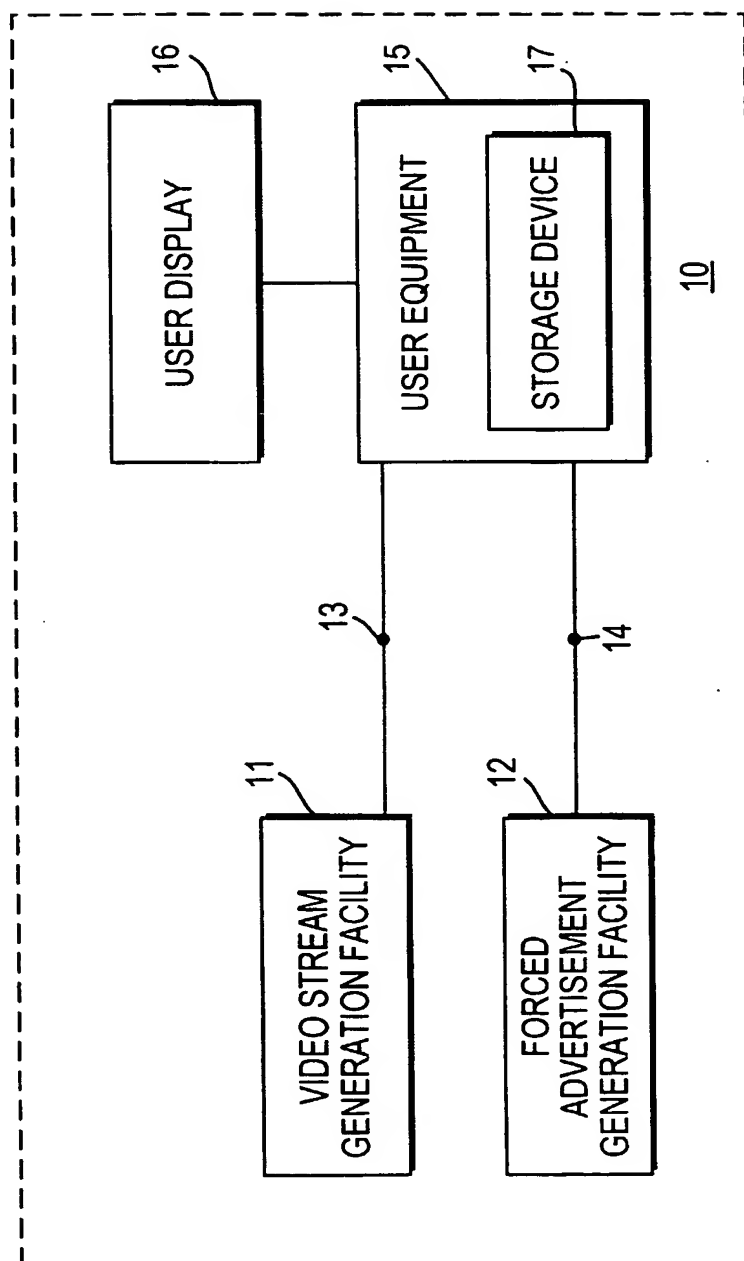


FIG. 1

2/4

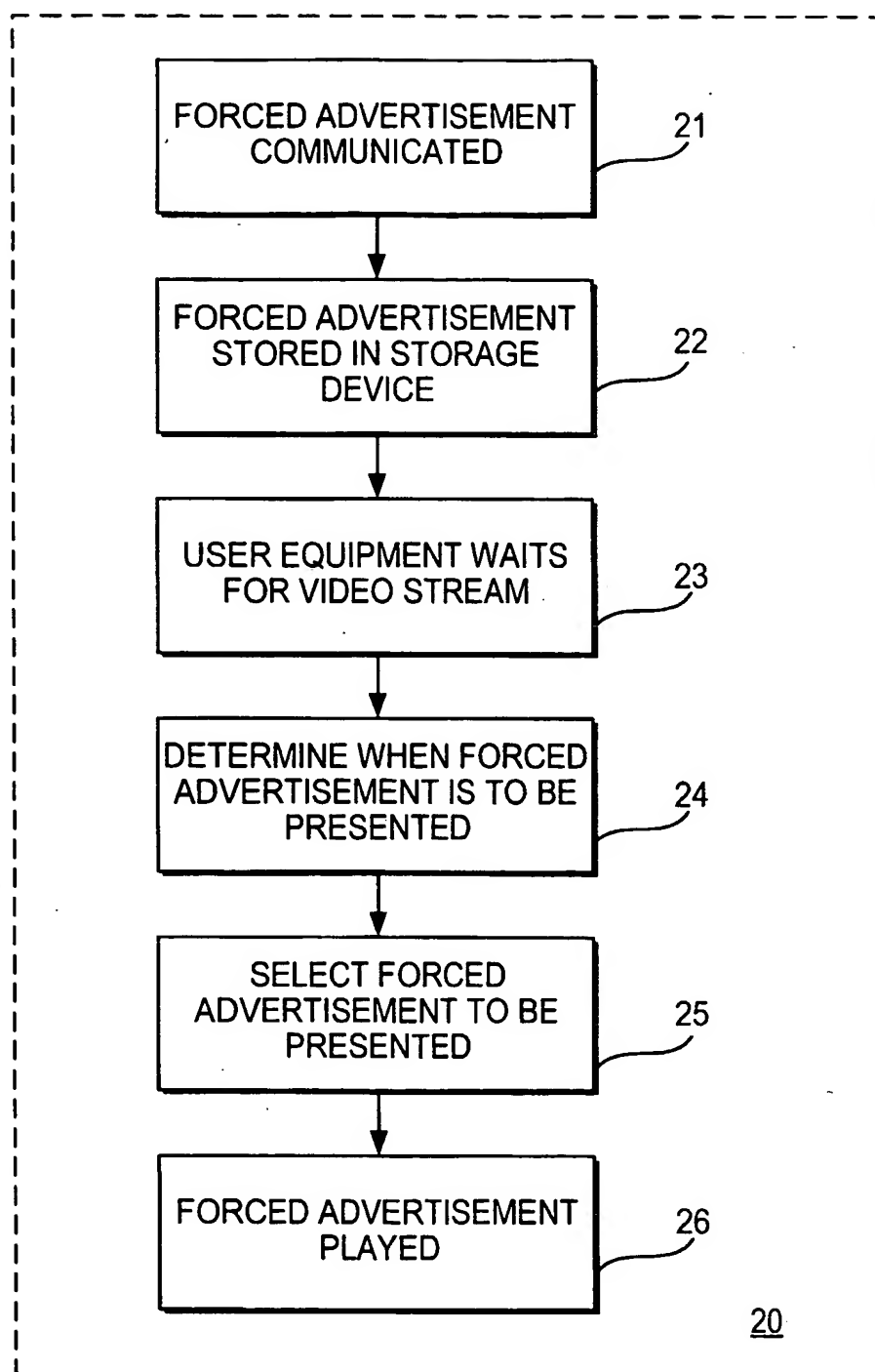


FIG. 2

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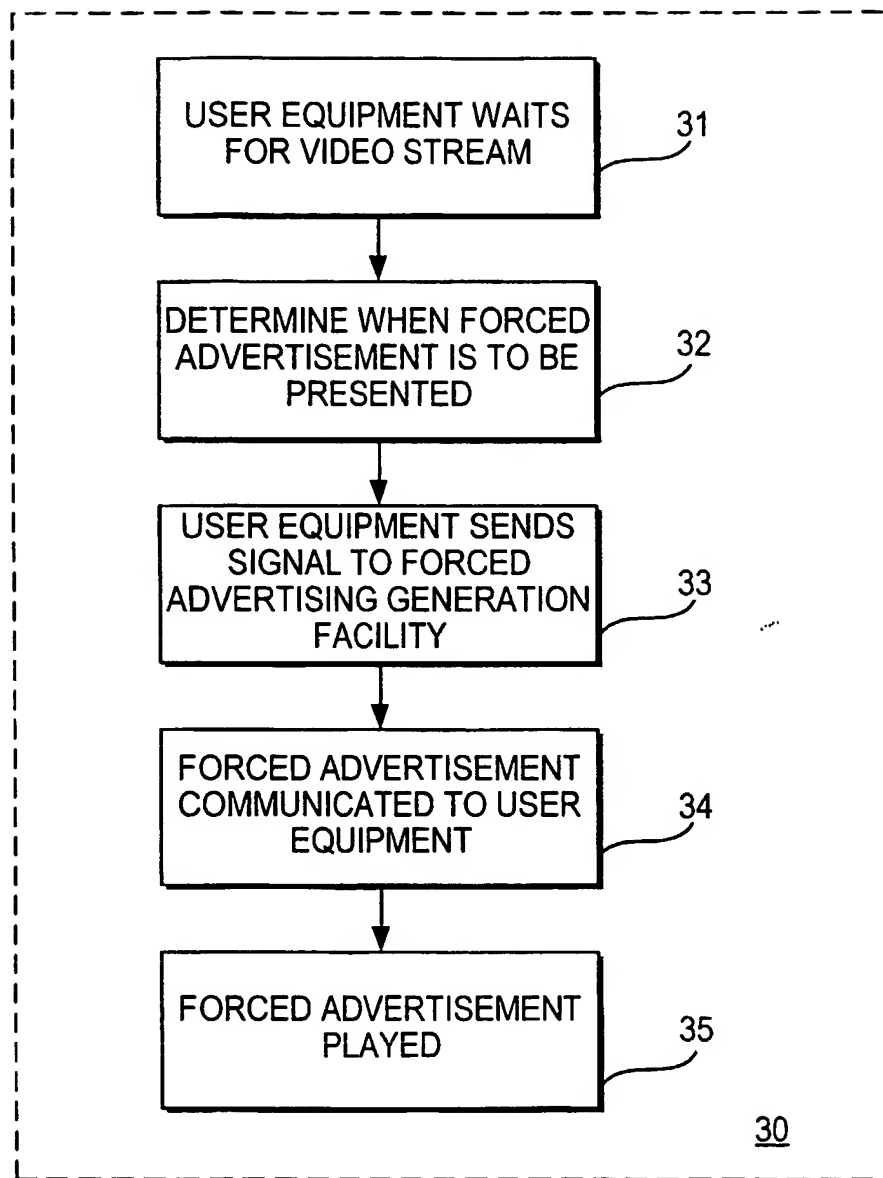
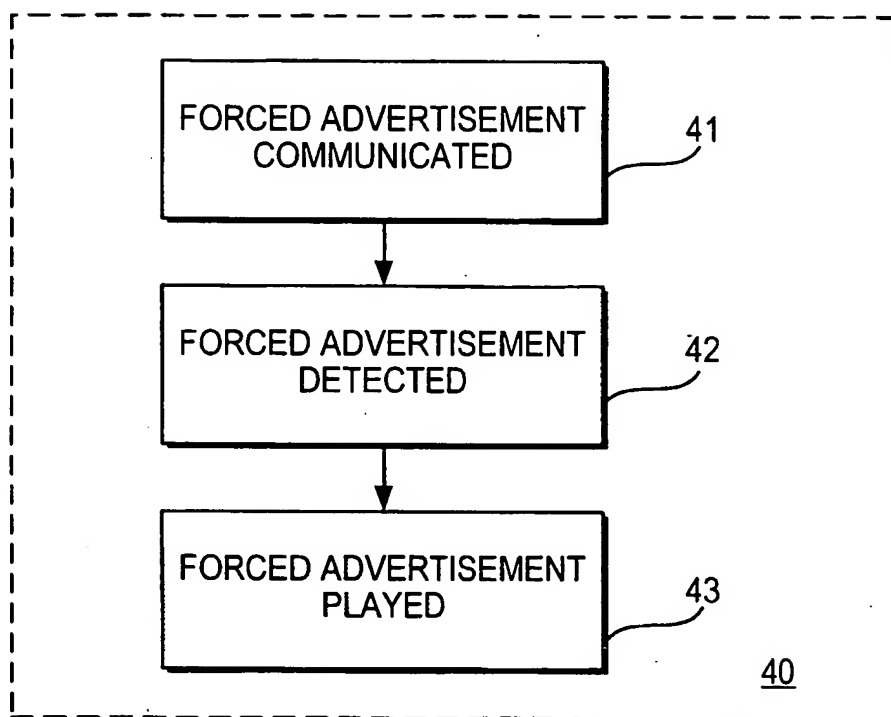


FIG. 3

4/4

**FIG. 4**

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/03301

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04N7/16

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>US 6 002 393 A (BEAUREGARD ROBERT G ET AL) 14 December 1999 (1999-12-14)</p> <p>figures 1,2,5,6  column 2, line 11 - line 15  column 2, line 33 - line 38  column 4, line 5 - line 13  column 4, line 36 - line 48  column 4, line 57 - line 60  column 5, line 2 - line 14  column 5, line 42 - line 46  column 6, line 41 - line 47  column 7, line 8 - line 14  column 7, line 36 - line 47  column 11, line 27 - line 29  column 11, line 42 - line 53  column 11, line 58 - line 63</p> <p>--</p>	<p>1-9, 11,  13,  17-25,  27-35,  37, 39</p>

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

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\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&amp;\* document member of the same patent family

Date of the actual completion of the international search

2 August 2001

Date of mailing of the international search report

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/03301

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Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>US 5 661 516 A (CARLES JOHN B) 26 August 1997 (1997-08-26)</p> <p>figures 1,3 column 2, line 48 - line 52 column 2, line 64 - line 67 column 3, line 17 - line 24 column 3, line 29 - line 34 column 3, line 51 - line 60 column 4, line 18 - line 35 column 4, line 45 - line 49 column 5, line 3 - line 5 column 9, line 37 - line 52</p>	1-8, 17-24, 27-34
A	<p>WO 97 49241 A (BEN MOSHE GIL ;ANTMAN AMNON (IL)) 24 December 1997 (1997-12-24)</p> <p>figure 1 page 2, line 11 - line 22 page 3, line 25 -page 4, line 5 page 4, line 29 - line 32</p>	1-4, 17-20, 27-30
A	<p>EP 0 424 648 A (GEN INSTRUMENT CORP) 2 May 1991 (1991-05-02)</p> <p>figures 3,5,7 column 1, line 49 -column 2, line 8 column 2, line 29 - line 36 column 3, line 37 - line 45 column 4, line 15 - line 30 column 7, line 7 - line 11 column 7, line 20 - line 25 column 9, line 18 - line 24 column 9, line 35 - line 47 column 10, line 43 - line 49 column 12, line 18 - line 24</p>	1-7, 17-23, 27-33
A	<p>US 5 093 921 A (BEVINS JR GEORGE L) 3 March 1992 (1992-03-03)</p> <p>figure 1 column 4, line 11 - line 23 column 8, line 66 -column 9, line 6</p>	10,12, 14-16, 26,36, 38,40,41

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International Application No

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